Chapter 8

Conclusions

8.0 Conclusions

AD is a multifactorial complex disorder and several pathophysiological mechanisms are involved in its progression and development. Current therapeutic regimens only provide symptomatic relief and not halt the disease progression. A single molecule-multiple target strategy has been proven to be promising and explored for the development of effective drug candidates to treat AD. This research work encompasses design and development of total three different medicinal scaffolds, which are comprised of eighty seven novel compounds. Among all, it is postulated that potent ligands i.e. N-(3-(4-(4-chlorophenyl)-1,2-diazaspiro[4.5]dec-2-ene-3-carbonyl)phenyl)benzamide (**67**), (4-(5-aminobenzo[d] oxazol-2-yl)piperazin-1-yl)(4-bromophenyl) methanone (**92A)**, N-((1-(4-bromobenzyl)-1H-1,2,3-triazol-4-yl)methyl)adamantan-1-amine (**32B**) and N-((1-(4-chlorobenzyl)-1H-1,2,3-triazol-4-yl)methyl)adamantan-1-amine (**33B**); from the above studies acted as multi-modal therapeutic agents on AD. The above findings, revealed on basis of substantial *in-vitro* and *in-vivo* biological studies, envisage that this new generation of MTDLs, may provide a road to treat complex AD effectively on their future development. Further, more advanced and rigorous biological and toxicological investigations need to be established for these identified leads to process them further for clinical trials.